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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/586,106

10/19/2007

Jae-Sub Song

038779/314194

1748

826

7590

12/09/2009

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EXAMINER

DAGLAWI, AMAR A

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

12/09/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/586,106	<b>Applicant(s)</b> SONG ET AL.	
	<b>Examiner</b> AMAR DAGLAWI	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09/03/2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

Claims 1-16 are pending in the current office action. The amendment has been entered.

### ***Response to Arguments***

1. Applicant's arguments filed on 09/03/2009 have been fully considered but they are not persuasive.
2. Applicant argues that with respect to claims 1 and 14 that among the limitations that Koh fails to teach or suggest are 1. Base station identifiers 2. Status information of the base stations 3. A Base station monitor for using first and second measurement values to calculate factors of the base stations after the measurement values are received by a radio communication module 4. A measured result modifier for using status information of the base station information database.
3. However, the Examiner respectfully disagrees and applies the broadest reasonable interpretation to the claims consistent with the specifications without reading limitations from the specifications into claims. The claims are given there broadest reasonable interpretation in light of the specification as it would be interpreted by one of ordinary skill in the art. See *In re Am. Acad of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004).
4. Koh teaches in Figs.1 and 2 a base station transceiver subsystem control processor for the controlling the base station. Koh also teaches a base station manager that performs testing, operation, maintenance and administration for the base station. The Examiner recognizes and a person of ordinary skill in the art understands

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5. that a base station contains an identifier and in this case Koh teaches a base station manager that performs testing, operation, maintenance and administration for the base station and it is inherent in the system that base station contains an ID that defines a sequence of 48 bits. The first 24 bits take the values of the 24 bits of the operator ID in order and the following 24 bits are administered by the base station operator (see col.4, lines 39-67, col.5, lines 1-5). Furthermore, Koh teaches (col.3, lines 10-25) a method and a system that measures the standing wave ratio for the base station (providing status information of the base station) and the method comprises the steps of generating a test signal by using a given test terminal included in the base station and by transmitting the generated test signal to the reception antenna and measuring the strength of a forward signal and a reflect signal for the reception antenna and obtaining the difference between the strength of the forward signal and the strength of the reflect signal and calculating the standing wave ratio for the reception antenna. The BCP (base station transceiver subsystem control processor) performs the operation of measuring the VSWR. Koh further teaches adjusting a variable attenuator to make the strength of the forward signal equal to the strength of the reflected signal and calculating the standing wave ratio for the transmission antenna by using the strength of the adjusted signal. Koh further teaches a radio data module for transmitting in a radio data format to a remote device which is equivalent to the BCP (the base station transceiver subsystem control processor) for controlling the base station as taught by Koh (see col.4, lines 40-67, col.5, lines 1-5).

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 10-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Koh et al (US 6,289,216 B1).

With respect to claim 1, Koh teaches An antenna system monitor of a base station, comprising: a radio communication module for receiving radio data including a first measurement value and a second measurement value of the antenna system of the base station (Fig.1, abstract); a message parser for parsing the radio data to parse a base station identifier and measurement information (abstract, Fig.4, col.6, lines 39-67, col.7, lines 1-5); a base station information database for storing identifiers of base stations to be monitored, and status information of the base stations (fig.1, col.4, lines 43-67, col.5, lines 1-31); a base station monitor for using the first and second measurement values to calculate factors of the base stations; and a measured result modifier for using status information of the base station information database corresponding to the base station identifier and modifying the calculated factors (col.5, lines 30-67, col.6, lines 39-67, col.7, lines 1-67, Fig.1

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With respect to claim 2, Koh further teaches the first measurement value is a power of a progressive wave and the second measurement value is a power of a reflected wave (abstract, col.6, lines 39-67, col.7, lines 1-67, Fig.4)

8. With respect to claim 3, Koh further teaches the factor of the base station includes a transmitted voltage standing wave ratio and a received VSWR (abstract, col.6, lines 39-67, col.7, lines 1-67, Fig.4)

9. With respect to claim 4, Koh further teaches the radio data include a plurality of first measurement values and second measurement values, information on a number of measurement times, information on an order of measurements, and a caller number (abstract, col.7, lines 55-67, Fig.4, Fig.5, col.8, lines 1-35)

10. With respect to claim 5, Koh further teaches the base station monitor comprises: a VSWR calculator for using the respective first measurement value and second measurement value to calculate a VSWR ; data storage unit for storing the calculated counter for controlling a calculation number of the VSWR ; and final VSWR calculator for outputting a final by the measured result modifier (abstract, col.6, lines 39-67, col.7, lines 1-67, Fig.1, Fig.4, col.8, lines 1-30)

With respect to claim 6, Koh further teaches the measured result modifier comprises • a eliminator for eliminating a maximum value and a minimum value from among the stored VSWRs ; and an average calculator for calculating an average of the VSWRs (abstract, col.2, lines 25-67, col.3, lines 1-10, col.4, lines 40-67, col.5, lines 30-67)

With respect to claim 7, Koh further teaches the measured result modifier further comprises: a superimposed value searcher for searching for a superimposed value from among the VSWRs ; and a weight assignor for assigning a weight to the maximum superimposed value according to a result provided by the superimposed value searcher (abstract, col.6, lines 39-67, col.7, lines 1-67, Fig.1, fig.4)

With respect to claim 8, Koh further teaches the measured result modifier uses base station information stored in the base station information database to increase or decrease the calculated averaged VSWR to thus perform mode (abstract, col.4, lines 40-67, col.5, lines 30-67, col.6, lines 39-67, col.7, lines 1-67, Fig.1, Fig.4).

With respect to claim 10, Koh teaches An antenna system measurer being installed in a plurality of base stations, measuring an antenna system of each base station, and reporting measured information to a monitoring server, the antenna system measurer (Fig1, abstract, col.2, lines 25-67, col.3, lines 1-30) comprising: a first measurer for measuring a first measurement value of the antenna system (Fig.1, abstract); a second measurer for measuring a second measurement value of the antenna system (abstract, Fig.4, col.6, lines 39-67, col.7, lines 1-5); a radio data module for transmitting in a radio data format to a remote device (col.4, lines 40-67, col.5, lines 1-5) [the BCP (the base station transceiver subsystem control processor) is equivalent to the radio data module] and a base station identifier that corresponds with the antenna system (col.4, lines 40-67) [see comments above with respect to the identifier]; the first measurement value and the second measurement value (fig.1, col.4, lines 43-67, col.5, lines 1-31); and a controller for controlling a number of measurement times of the first

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measurement value and the second measurement value and radio data transmission (col.5, lines 30-67, col.6, lines 39-67, col.7, lines 1-67, Fig.1)

With respect to claim 11, Koh further teaches the first measurement value is a power of a progressive wave and the second measurement value is a power of a reflected wave (abstract, col.6, lines 39-67, col.7, lines 1-67, Fig.4)

With respect to claim 12, Koh further teaches the antenna measurer further comprises a frequency converter for converting a frequency of the second measurement value, the radio data module outputs a frequency of a predetermined power to a receive antenna when receiving an instruction for measuring the receive antenna, and the controller controls the frequency converter to convert a frequency of a power signal reflected from the receive antenna (abstract, col.2, lines 25-67, col.3, lines 1-10, col.4, lines 40-67, col.5, lines 30-67)

With respect to claim 13, Koh further teaches the radio data includes a short message service (SMS) message (abstract, col.2, lines 25-67, col.3, lines 1-10)

With respect to claim 14, Koh teaches A method for measuring and monitoring an antenna system of a base station in a mobile communication system, comprising: using an antenna system measurer installed in a base station antenna and measuring a power of a progressive wave and a power of a reflected wave (Fig1, abstract, col.2, lines 25-67, col.3, lines 1-30); transmitting information including measurement values and measurement times of the progressive wave and the reflected wave and base station identifiers in a radio data format to a monitoring server (abstract, Fig.4, col.6, lines 39-67, col.7, lines 1-5); allowing the monitoring server to receive the radio data,



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parse the message, and search information on the corresponding base station from a base station information database; using the transmitted measurement values to calculate a voltage standing wave ratio of the base station; and modifying the calculated VSWR according to searched base station information when modification is needed (col.5, lines 30-67, col.6, lines 39-67, col.7, lines 1-67, Fig.1)

With respect to claim 15, Koh further teaches calculating the VSWR includes: eliminating a maximum value and a minimum value from among the calculated VSWRs ; and calculating an average of the VSWRs without the maximum value and the minimum value (abstract, col.2, lines 25-67, col.3, lines 1-10, Fig.1, Fig..4).

With respect to claim 16, Koh further teaches calculating the VSWR includes: searching superimposed values from among the VSWRs and assigning a weight to a VSWR corresponding to the superimposed value (abstract, col.2, lines 25-67, col.3, lines 1-10, col.4, lines 40-67)

### ***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

14. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koh (US 6,289,216 B1) in view of Abrams et al (US 7,127,220 B2).

Koh teaches all the limitations of claim 1 except for a display for displaying the calculated final a communication interface for transmitting the calculated final VSWR to an external device; and an alarm unit for generating an alarm signal when the final VSWR is greater than a predetermined threshold value which is taught in related art by Abrams (Fig.1, Fig.2, #122, col.3, lines 45-67, col.4, lines 1-45, abstract).

15. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Koh ( the system) to incorporate the display of Abrams so as to display operating conditions such as forward power, reflected power VSWR.

***Conclusion***

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMAR DAGLAWI whose telephone number is (571)270-1221. The examiner can normally be reached on Monday- Friday (7:30 AM- 5:00 AM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NGUYEN DUC can be reached on 571-272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Examiner  
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